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Claims: I claim:

1. *(amended)* A modular wheeled container system that is tilted from the free standing position for rolling comprising:

- a) a wheeled container having a means for rolling
- b) a first attachable container which rests on top of said wheeled container, and
- c) an optional second attachable container which rests on top of said first attachable container
- d) a means for securing

wherein said means for securing secures said wheeled container to said first attachable container between or across the adjoining interface of said wheeled container and said first attachable container wherein the top supporting edge of the said wheeled container is secured to the bottom supported edge or face of the said first attachable container and a single rigid entity is formed from the secured said wheeled container and said first attachable container whereby the first attachable container becomes the vertical structural extension to allow ergonomically comfortable tilting and rolling of the said single rigid entity, and whereby the cart, frame, or vertically extending handle is no longer required, and wherein the tilting shifts the center of gravity of the load vertically above the axis of the said means for rolling and wherein the angle of tilt is greater than 10 degrees between the free standing position and tilted position,

and if said second attachable container is used, wherein a second said means for securing secures said first attachable container to said second attachable container between or across the adjoining interface of said first attachable container and said second attachable container wherein the top supporting edge of the said first attachable container is secured to the bottom supported edge or face of the said second attachable container and a single rigid entity is formed from the said wheeled container secured to said first attachable container and said second attachable container secured to said first attachable container wherein the attachable containers becomes the vertical structural extension to allow ergonomically comfortable tilting and rolling of the said single rigid entity whereby the cart, frame, or vertically extending handle is no longer required, and wherein the tilting shifts the center of gravity of the load vertically above the axis of the said means for rolling and wherein the angle of tilt is greater than 10 degrees between the free standing position and tilted position.

2. *(Combined with claim 1)*

3. *(twice amended)* The system of claim 1 further including a means for hitching first said single rigid entity to a second said single rigid entity, for rolling in the tilted position wherein the said means for hitching fastens the first said single rigid entity to the second said single rigid entity, and wherein the tilting shifts the center of gravity of the load vertically above the axis of the said means for rolling and wherein the angle of tilt between the vertical axis of the said second rigid entity is greater than 10 degrees between its free standing position and tilted position and whereby the said second said single rigid entity is vertically stabilized in the tilted position by the first said rigid entity and whereby castored wheels are no longer required.

4. *(amended)* The system of claim 3 wherein first and / or second said single rigid entity is a refuse container.

4.5 *(added)* The system of claim 4 wherein there is a plurality of hitched said single rigid entity or plurality of said refuse container or combination thereof

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5. The system of claim 4 wherein said first attachable container is a recycle container on top of said refuse container.

5.5 (Added) The system of claim 5 wherein said refuse container is the 32 gallon Rubbermaid refuse container.

6. The system of claim 5 wherein said means for securing said wheeled container to first said attachable container or said first attachable container to said second attachable container is a handle, telescope fit, groove, over center clasp, or latch.

7. (amended) The system of claim 6 wherein said handle is the handle described in US 4,691,840 FERBRACHE patent, whereby adjoining containers are secured and tilted for rolling containers are hitched, but excluding securing lids onto containers.

8. (Amended then combined into 3)

9. (Amended) The system of Claim 3 wherein the said means for hitching remains fastened when moved from the tilted position to the free standing position.

10. (Amended) The system of claim 3 wherein said rigid entity is a luggage device or general purpose cart.

Claims 11- 21 are withdrawn for later consideration

#### **TILTABLE MODULAR RECYCLE CONTAINER SYSTEM**

**Abstract:** a system for transporting refuse and recycling materials to the curb in a single trip by forming single rigid entities from adjoining liftable size containers and a tiltable hitching device using an existing style of refuse container handles.

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- c) an optional second attachable container which rests on top of said first attachable container
- d) a means for securing

wherein said means for securing secures said wheeled container to said first attachable container between or across the adjoining interface of said wheeled container and said first attachable container wherein the top supporting edge of the said wheeled container is secured to the bottom supported edge or face of the said first attachable container and a single rigid entity is formed from the secured said wheeled container and said first attachable container whereby the first attachable container becomes the vertical structural extension to allow ergonomically comfortable tilting and rolling of the said single rigid entity, and whereby the cart, frame, or vertically extending handle is no longer required, and wherein the tilting shifts the center of gravity of the load vertically above the axis of the said means for rolling and wherein the angle of tilt is greater than 10 degrees between the free standing position and tilted position,

and if said second attachable container is used, wherein a second said means for securing secures said first attachable container to said second attachable container between or across the adjoining interface of said first attachable container and said second attachable container wherein the top supporting edge of the said first attachable container is secured to the bottom supported edge or face of the said second attachable container and a single rigid entity is formed from the said wheeled container secured to said first attachable container and said second attachable container secured to said first attachable container wherein the attachable containers becomes the vertical structural extension to allow ergonomically comfortable tilting and rolling of the said single rigid entity whereby the cart, frame, or vertically extending handle is no longer required, and wherein the tilting shifts the center of gravity of the load vertically above the axis of the said means for rolling and wherein the angle of tilt is greater than 10 degrees between the free standing position and tilted position.

2. (Combined with claim 1)

3. (twice amended) The system of claim 1 further including a means for hitching first said single rigid entity to a second said single rigid entity, for rolling in the tilted position wherein the said means for hitching fastens the first said single rigid entity to the second said single rigid entity, and wherein the tilting shifts the center of gravity of the load vertically above the axis of the said means for rolling and wherein the angle of tilt between the vertical axis of the said second rigid entity is greater than 10 degrees between its free standing position and tilted position and whereby the said second said single rigid entity is vertically stabilized in the tilted position by the first said rigid entity and whereby castored wheels are no longer required.

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9. (Amended) The system of Claim 3 wherein the said means for hitching remains fastened when moved from the tilted position to the free-standing position.

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Claims 11- 21 are withdrawn for later consideration

#### TILTABLE MODULAR RECYCLE CONTAINER SYSTEM

**Abstract:** a system for transporting refuse and recycling materials to the curb in a single trip by forming single rigid entities from adjoining liftable size containers and a tiltable hitching device using an existing style of refuse container handles.

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**hitch- verb** - also hitching, hitched- this is the action of fastening two tilted for rolling, wheeled containers together where one or both of the containers may be either a taller one piece container such as a refuse container, or a rigid entity.

**adjoining -adjective-** refers to the containers directly in contact with one another, such as the wheeled container and the first attachable container. The wheeled container and second attachable container do not touch each other and hence are not considered adjoining.

"Adjoining" and "adjoin" do not refer to hitches or hitching, are not used as a verb, and are not part of the hitch or hitching operation.

**ergonomically comfortable tilting and rolling** - refers to a minimal height that the rigid entity must reach to allow an adult to tilt and then roll the rigid entity with their back or spine in the straightened position.

**tilted for rolling** - means that the wheeled container or rigid entity is tilted so that the center of gravity is shifted and held in position above the axis of the means for rolling in order to vertically balance the container in a coplanar direction perpendicular to the axis of rotation. This is typically in excess of a 10 degree angle (for symmetrical evenly loaded containers) between the vertical axis of the container in its free standing position and it's tilted position

In the conversation in July it was communicated that claim 1 lacked a positive recitation to the actual securing of the wheeled container and attachable container (even though Figure 1 shows them secured) and that the word single rigid entity was unclear. Applicant agrees with the examiner and request that the above definitions be added to the Operation.

The word rigid entity describes the single container formed by the securing of at least one attachable container on top of the wheeled container in order to extend the height of the wheeled container so that it is ergonomically comfortable for tilting and rolling. Prior to this amendment line 17 on page 9 of 11 of the Operation reads "Handles 4 that were initially in the unsecured position may now be moved to the secured position prior to tilting to form the rigid entity." This word "rigid entity" also appears in the background, summary, operation Fig 1-11, Fig 5 Alternative, Advantages a) and 1), Conclusions, Ramifications and Scope, claim 13, and Abstract, and if this amendment is allowed, it will be added at the beginning of the Operation as a clear definition of it's meaning as pertaining to this patent.

The word "entity" is defined as "*1a) independent, separate or self-contained existence 1b) the existence of a thing as contrasted with its attributes 2 something that has a separate and distinct existence and objective or conceptual reality.*" Webster's New Collegiate Dictionary. It is the applicant's intended meaning that the newly created securement of the wheeled container with attachable container becomes a new single, distinct container composed of at least two attributes and is rigid in structure so that and is able to be comfortably tilted and rolled like a single container, unlike the two independent, unsecured containers.

The word "rigid" always precedes the word "entity" and is intended to describe the physical rigidity of the secured containers as a single entity and not the physical nature of the means for securing, such as handles, straps or clasps. In the conversation it appeared that there was confusion concerning the nature of the handles and /or hitch as being flexible. In no argument was the word rigidity used to overcome the Evan's art of a flexible strap. The "6 hitch" of Figure 4 is not described as rigid nor does it's clasping onto the Ferbracho handles have any friction or resistance fit nor form any rigid entity. The part "39. flexible groove body" of Figure 4 is not tight around handle part "21. grip" and is described as such in the Operation.

There was also a misunderstanding between securing and connecting. To clarify this, the word connecting has been replaced with hitching, and a definition will also be added to the Operation.

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The word adjoining is emphasized as the key to overcoming Evans and even if interpreted by the broadest definition of the word, limits the structure of the elements to contacting surfaces.  
*adjoining: "adj., touching or bounding at a point or line". Webster's New Collegiate Dictionary.*  
 During the conversation the examiner looked up the word "adjoin" which is broader, but is not used in the claim. But the word "*adjoin: 1. To add or attach by joining. 2. To lie next to or in contact with.*  
*verb intransitive : to be close to or in contact with one another". Webster's New Collegiate Dictionary,* still suggests between touching containers and not the Evans' system of binding a pile of containers onto a cart resulting in a structure where the top container of a pile of three would not be in contact with the bottom container. The examiners dictionary used the synonym *contiguous: to have contact with 1. being in actual contact : touching along a boundary or point (Webster's New Collegiate Dictionary).*

Applicant has shown that the word "adjoining" clearly defines over Evans in structure, operation and yields new and unexpected results, etc. in the 102 Evans arguments of the response to the first office action. The applicant has never used "adjoining" as a verb and that to interpret it as a verb when it directly follows the verb "secure" would not make sense. Even if it was interpreted as a verb, it does not appear in my dictionary as a verb, suggesting a grammatical error, or if it does appear in other dictionaries as a verb, it would probably not change the scope of the invention. The applicant has amended claim 1 by clarifying the limitation of "adjoining" by describing the adjoining interface and stating some of the resulting benefits in order to obviate the art over Evans. The amendment positively recites that the containers must be secured and that the condition of height change will produce the ergonomic condition for comfortable tilted rolling.

The luggage container designs were also discussed as possible prior art but there are no designs that utilize the applicant's claimed structure of using the attachable container to lengthen the shorter wheeled container to make tilting for rolling ergonomically comfortable. All luggage designs offer an extending handle that elongates from the wheeled luggage container and an attachable container that is secured to this handle, not to their adjoining container. (There are also no luggage systems that have hitched, tilted for rolling, containers).

Applicant requests that these amendments to claim 1 and 2 be allowed.

the applicant requests reconsideration of the 35 U.S.C. 102 rejection of claim 1 for the following reasons of patentable distinction from Evans for the following reasons with the regards to the amendments and the new understanding of the terms used;

1. Evan's simultaneous binding of more than one container onto a cart by compressing containers and lids between a single strap and a plate cart 28, is physically distinct from applicant's securing each pair of independent containers at their adjoining interface, and physically distinct in terms of each pair of container's adjoining interface having an independent means for securing apart from other adjoining interfaces. The following elaborates the **distinctions of means and function over Evans:**

a) Evans has cart 28 which he entitles "cart" not container, because it has no refuse contents and is designed solely for rolling non wheeled containers

Applicant has no cart.

b) Evans binds containers onto a cart

Applicant secures containers to each other

c) Evans securing force is between a strap and a plate cart 28

Applicants securing force is between adjoining interfaces

d) Evans means for securing is a single device for all containers transported

Applicant's means for securing is a pair of devices (handles) for each container transported

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- e) Evan's means for securing is a single operation that secures all containers simultaneously  
Applicant's means for securing is number of operations for each independent pair of containers
- f) Evan's means for securing must be altered (strap shortened or lengthened) depending on number of containers selected  
Applicant's means for securing is unaltered and independent of the number of containers selected
- g) Evans' means for securing is a separate device from the container and is integral to the cart  
Applicant's means for securing is part of the container and also is used for lifting and hitching.
- h) Evans does not have wheels for one level of container  
Applicant has wheels as part of one level of container
- i) Evans and uses an offset seating arrangement when no lids are used, in order to allow nesting and stacking.  
Applicant has a wheeled container and each level of container is different in dimension, requiring a specific order. Applicant overcomes the nesting problem by having the container placed on top to be wider but shorter than the lower one, thus allowing a lower container to nest inside the upper container for storage for a single pile

The examiner states that Evans' cart 28 is a wheeled container. For the cart 28 to be a container it would have to be able to hold or contain recycle materials in order to function as a container. If any significant volume of materials were placed in the cart 28, such as jars or cans, these materials would prevent the nesting of Evan's container 24 in the cart 28, causing reduced structural nesting of the container 24 in the cart 28 due to the taper angles of the side walls not engaging to secure the container laterally within the cart 28. The contents would result in Evans system be inoperative thus inapplicable as art and hence does not show applicants invention. This is not the case with Evans' other containers when even large quantities are placed in the containers. For the cart 28 to function as a container it would require a vacant space for storage of materials by having the upper container supported by the walls of the lower container, however the walls do not support the container 24 and have significantly shorter sides rather than walls. The construed wheeled container 28 with a container 24 would be operatively described as a compactor, press or vice if a single piece of paper were placed in the construed wheeled container 28, and the paper would be described as being clamped, embedded or compressed but not contained.

The applicant maintains that cart 28 is a cart and not a container, but even if it is construed as a wheeled container 28, the art shows that at least two containers 24 plus the construed wheeled container are required in order to achieve an ergonomically comfortable tilted rolling height to operate as a tilted for rolling container. This then constitutes a 3 container system where the construed wheeled container 28 is not adjoining with the top container and as there is no physical contact there is no adjoining interface between them due to middle container separating them, hence there can be no securing between or across the adjoining interface as in applicant's invention, thus applicant's claim defines over Evans.

If the examiner holds the position that a single container on the construed wheeled container 28 shows securing across the adjoining interface, the art would not belong to Evans' because he does not show a single container tall enough to allow ergonomically comfortable tilted rolling, hence rendered inoperative and as well the other benefits of Evans' invention would not be realized. Thus the art of Evans does not show applicant's invention even if cart 28 it is construed as a wheeled container 28, but rather shows a refuse container with attachable wheels. When the art of Evans is altered to this extreme, it no longer is the art of Evans and cannot be used to describe applicant's invention.

2. Evans offers a metal tube hand cart 54 (hand dolly design) to transport the containers to the curb that would cost significantly more than some latches or handles (probably more than his containers), as well as still requiring a strap to hold the containers on the plate cart 28. An alternative attempt to reduce the cost of transportation Evans uses a plate cart 28 and a strap, each costing more than applicants latches or handles and requiring cumbersome application. This clearly shows the applicants lower cost and easier operation. It also clearly demonstrates that Evans suffered the long felt need of forming a rigid entity for tilted transport of independent containers, and being skilled in the art failed to realize applicant's novel solution.

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**3. EVANS COULD HAVE EASILY INCORPORATED APPLICANT'S NOVEL SOLUTION WITHOUT LOSING ANY DESIGN BENEFITS**

If Evans had anticipated claim 1, then he would have added a latch, similar to Fig 8, to permanently secure the container lids to the container, and a releasable latch that would secure the upper assembled lid / container to the lower assembled lid / container to still allow for separate dumping. In the configuration where Evans does not use lids, it would have been even simpler to add a means to secure upper and lower containers, such as claimed by applicant, to overcome the rigid entity problem. By doing so Evans would have not lost the design benefits of "stack and nest" for shipping/retail, lids with odor/ precipitation resistant doors, independent dumping,

**4. APPLICANT'S DESIGN ACHIEVES NEW UNEXPECTED RESULTS**

As explained in 2. and 3., Evans could have reduced his overall system cost by eliminating his cart by simply adding a projecting latch that would be molded simultaneously with his container or lid for a one time extra cost to the existing mold plus the additional plastic cost. The cost of the strap with tensioning device is also eliminated as well as the labour cost to secure the strap to the cart. The strap would become wet and dirty and requires bending to ground pick up, looping over pile of containers and bending to ground to secure to cart base, and then some tensioning action, lengthening or shortening if number of containers change. Savings in terms of distribution shipping and shelf space of the cart are also eliminated.

**5. EVANS DOES NOT SUGGEST APPLICANTS NOVEL FEATURES BUT TEACHES AWAY FROM IT**

Evans uses the conventional ways of transportation of either a hand dolly cart 54 or a plate cart 28 with a conventional load binding strap to hold the containers on it. The handle or alternative embodiment joint designs that secure each container independently at their adjoining interface is not suggested by Evans.

**6. EVANS TEACHES AWAY FROM APPLICANTS WHEELED CONTAINERS AND EACH LEVEL OF CONTAINER BEING DISTINCT IN DIMENSION**

Evans follows the path of stackable, nestable containers to all be similar in dimension and shape, and avoids nest and (180 degree) turn to prevent opening alignment problems. He also does not have wheels for one level of container, and uses an offset seating arrangement when no lids are used, in order to allow nesting and stacking. Applicant teaches a wheeled container and each level of container is different in dimension, requiring a specific order. Applicant overcomes the nesting problem by having the container placed on top to be wider but shorter than the lower one, thus allowing a lower container to nest inside the upper container for storage for a single pile. A single pile of containers would be limited to probably 5 high before it becomes impractical and unstable. Multiple piles of containers can still have similar levels nest for distributor's needs.

**7. CROWDED ART**

The applicant has reviewed countless patents and existing prior art in this field. The Evans patent, which initially appears similar, upon closer examination, is clearly different in it's elements and operation. In any crowded classification such as this one, even a small step forward is considered significant and that the many new and unexpected substantial results obtained over Evans must be directly due to the novelty of this invention.



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8. As seen from the original claim, the word "adjoining" agrees with Webster's definition and applicant has maintained that the intended meaning describes the elements at the interface as well as being the elements of the interface of two adjoining containers

*adjoining: "adj., touching or bounding at a point or line". (Webster's New Collegiate Dictionary).*

*adjoin: 1. To add or attach by joining. 2. To lie next to or in contact with.;*

*verb intransitive : to be close to or in contact with one another. (Webster's New Collegiate Dictionary)*

The examiners dictionary used the synonym *contiguous*; *to have contact with 1. being in actual contact : touching along a boundary or point (Webster's New Collegiate Dictionary).*

#### Original Claim

1. A modular wheeled container system that is tilted from the free standing position for rolling comprising:

- a) a wheeled container having a means for rolling
- b) at least one attachable container, and
- c) a means for securing adjoining said wheeled container to said attachable container.

Substitution of the definition with the word "adjoining", the claim would read

1. A modular wheeled container system that is tilted from the free standing position for rolling comprising:

- a) a wheeled container having a means for rolling
- b) at least one attachable container, and
- c) a means for securing *touching or bounding at a point or line* said wheeled container to said attachable container.

Or with corrected grammar would read

1. A modular wheeled container system that is tilted from the free standing position for rolling comprising:

- a) a wheeled container having a means for rolling
- b) at least one attachable container, and
- c) a means for securing said wheeled container at the *touching or bounding point or line* to said attachable container.

The adjective adjoining clearly defines the elements of the interface of the two containers. The applicant is not adding new elements to the claim. This may become clear when looking at Fig 5 and 6 where there are no handles to secure the interface.

#### 9. THE LIMITATION OF 'ADJOINING' OVERCOMES EVANS 35 U.S.C. 102(b)

Claim 1, c) limits the claim to securing adjoining containers and

"1.c) a means for securing adjoining said wheeled container to said attachable container". The word adjoining thus overcomes Evans and clearly limits the scope on the invention, and defines the patentability of invention over Evans.

The applicant requests reconsideration and allowance of the claims of 1 with regards to Evans under 35 U.S.C. 102 according to reasons above.

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the applicant requests reconsideration of the 35 U.S.C. 103(a) rejection of claim 1,3,4,8, and 9 for the following reasons of patentable distinction for the following reasons;

The second office action date mailed 06/12/2002 includes a new objection of claims 1,3,4,8,9 under 35 U.S.C. 103(a) as being unpatentable over Tolbert (but not in view of any other art reference) reads:

*"Tolbert discloses a modular wheeled container system that is tilted from the free standing position for rolling comprising a wheeled container (10) having wheels (17), at least one attachable second container (10) and a means for securing adjoining the containers (loop 20 and catch 24). A third container (10) is shown in phantom indicating that it as well can be connected in the same manner as the second container is connected to the first. Tolbert discloses the invention except for the fourth container. It would have been obvious to include a fourth container and connect it in the same fashion as the second container is connected to the first as a duplication of structure that exists within Tolbert. The third and fourth containers being equivalent to the second wheeled container and second attached container, respectively, of claims 3 and 8."*

In the July conversation, the examiner suggested a limitation of perhaps greater than 10 degrees of tilt to overcome Tolbert with regards to possible tilting that may result from impacting or acceleration of the Tolbert system. It was agreed that it is unreasonable to expect the Tolbert container to balance on the single lead wheel located in line and below the hitch. Even a single Tolbert container would be extremely difficult for a person to hold tilted at any angle, and that with Tolbert's hitching structure it would be impossible to roll a train of tilted containers each on their one single swivel front castor for any distance at even the slightest angle.

It was also agreed that the casters do not function when the plane of swivel of the castor is tilted relative to the plane of the surface of travel (floor). Applicant proposes the following amendment: 3. *(twice amended)* The system of claim 1 further including a means for hitching first said single rigid entity to a second said single rigid entity, for rolling in the tilted position wherein the said means for hitching fastens the first said single rigid entity to the second said single rigid entity, and wherein the tilting shifts the center of gravity of the load vertically above the axis of the said means for rolling and wherein the angle of tilt between the vertical axis of the said second rigid entity is greater than 10 degrees between its free standing position and tilted position and whereby the said second said single rigid entity is vertically stabilized in the tilted position by the first said rigid entity and whereby castored wheels are no longer required.

**APPLICANT IS NOT CLAIMING HITCHING OF WHEELED CONTAINERS THAT ARE VERTICAL FOR ROLLING , BUT CLAIMING TILTED HITCHING FOR HITCHED CONTAINERS THAT ARE TILTED FOR ROLLING**

Applicant agrees with the examiner that hitching of containers is not novel where containers that are rolled in the vertical free standing position with castored wheels are hitched, or in the case where two non-castored wheels are located under the center of gravity of the container and the container vertically stabilized by a single lead hitch or both lead and trailing hitch such as in an amusement park train. Applicant is not claiming hitching a fourth or any other number of containers to Tolbert's system. However, applicant's claim is limited to the hitching of tilted for rolling containers, which is uncontested by any prior art in any field, including luggage, where there is clearly a long felt need.

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The objection states " *Tolbert discloses a modular wheeled container system that is tilted from the free standing position for rolling* " The amendment clarifies the word "tilted" which obviates and defines over Tolbert. The claim now obviates and defines that the Tolbert container does not tilt since:

- a) "angle of tilt between the vertical axis of the rigid entity is not greater than 10 degrees from it's free standing position while rolling because it is forced into the vertical 0 degree tilt by it's four castored wheels in it's free standing position as well as while rolling
- b) an acceleration force will only momentarily tilt the Tolbert system, if at all, and if so, only slightly (2 degrees) for the duration of the acceleration before it returns to it's 0 degree tilt due to gravity and the decrease in force of the dynamic friction as compared to static friction of the wheels and/or bearings, hence a decrease in the tilting moment and angle. This motion cannot be classified as a tilted rolling but is a separate, undesired, secondary motion of rocking, teetering, or (rotational) moment. This is classified as a *tilted while rocking* or *tilted while accelerated*, but not tilted for rolling motion. The operator would fear instability if the system tilt ever reached a 10 degree angle, and would immediately reduce the force of pulling, or check if the any wheels were stuck. This is because side castored wheels would also no longer give lateral stability as they are lifted from the floor causing the container to tilt sideways. The single front castored wheel will lock and not allow turning of the train.
- c) a curved or inclined surface can no longer be considered tilting because when the container is left free standing on the curved or inclined surface, the angle of tilt still measures zero
- d) tilting does not shift "the center of gravity of the load vertically above the axis of the said means for rolling" but rather away from the vertical balance point of the four castors.

It was not the intent of Tolbert to tilt his containers more than 10 degrees and that any tilting would have been viewed by him or an operator as undesirable. The applicant would have included the amendments in the response to the first office action, but failed to realize the examiner was referring to the undesired, micro-tilting of Tolbert's system. Tilting in the Tolbert system as suggested in the objection is then overcome by the further clarification of the amendment in claim 3 and the Operation.

The "whereby the said second said single rigid entity is vertically stabilized in the tilted position by the first said rigid entity" amendment further obviates the distinction between tilted for rolling over vertically hitched systems because the tilted container with it's load balanced vertically over the axis of the means for rolling requires vertical stabilization in the coplanar direction perpendicular to the axis of rotation unlike the Tolbert container that has it's lead and trailing castored wheels to stabilize in this direction.

The applicants novel hitching was not realized by others skilled in the field because it could not be perceived that a two container tilted hitched configuration would not result in forward toppling if the lead container was not continually being held in an upward direction. It was not realized that the rearward force on the top of the lead container and the simultaneous down and forward force of the towed container onto the bottom rear of the lead container as well as the several other forces cancel each other to lock the two container system in the tilted position unattended. The only other relevant hitched system that does not use castors and has two non-castored wheels is the amusement park train, where the carts are vertically stabilized by the front and/ or rear hitch, (but not tilted) and when unhitched would topple onto their front or rear side. This would make it very difficult to use this design with refuse containers, because the containers require unhitching for storing or dumping.

The "whereby castored wheels are no longer required" amendment also obviates some of differences, benefits and simplicity of a tilted hitching system over the vertical hitching system.

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**1. TOLBERT'S SYSTEM WILL NOT FUNCTION FOR ROLLING IN THE TILTED POSITION**

Even if Tolbert rearranged his wheel positions, reduced the number of wheels to two, and changed these two to non castoring wheels, the system would not function in the tilted position because the hitch which is located centrally along the vertical height, would result in the top of the trailing container binding on the top left or right sides of the leading container as the train travels about a curve or incline. Even after changing the wheels, if the hitch was moved to the top of the containers, the additional height increase caused by the tilting would lift the towed container off the ground before the balance point was reached. If the handle was then lengthened to prevent the lifting, the container sides would not be able to touch each other in unless they are unhitched. Even with the single wheel located at it's furthest forward location, Tolbert's container slightly tilted would result in the bottom edge, in front of wheel, rubbing on the ground.

**2. APPLICANT'S SYSTEM WILL NOT FUNCTION FOR ROLLING IN THE VERTICAL NON- TILTED POSITION**

The applicants containers will not roll unless tilted because there are no wheels on the base on the side adjacent to the pulled handle. Even if wheels were placed here, the handles would have to be lowered or the operators pulled container or the towed container would tip if either caught their wheels on a projected edge.

**3. TOLBERT DOES NOT SUGGEST TILTING OF HITCHED CONTAINERS-** Tolbert being skilled in the art nowhere suggests tilting containers during either transport or hitching.**4. NEW AND UNEXPECTED RESULTS ACHIEVED BY HITCHING IN TILTED POSITION**

Tolbert states that this system is use in "manufacturing environments". The following new and unexpected results are achieved when containers are hitched in the tilted position:

- a) **AMAZING STABILITY ALLOWS TRAVEL ON STAIRS-** Tilting while towing overcomes the curbs and projected edges typically found on the way to the roadside and even stairs. The larger wheels are also beneficial, but would not be sufficient in towing a train of containers over a curb. Applicants tilted system results in the two hitched containers being more stable than a single non hitched container.
- b) **NO BENDING OVER AND IMPROVED VISIBILITY** -The hitching operation is performed in an ergonomically and visually convenient area above the containers.
- c) **CONTAINERS ARE SELF SUPPORTING IN TILTED POSITION** - A single container would obviously fall over if released in the tilted position. Two or more containers released in the tilted position lock each other and prevent falling over.
- d) **APPLICANTS HITCH ALLOWS ONE CONTAINER TO BE TILTED AT A TIME-** Tilting hitched containers would be very difficult all the containers in train had to be tilted simultaneously. Applicants novel hitch design allows towed container to be tilted while the lead container remains vertical, but also allow all containers to be tilted simultaneously.
- e) **HITCHING DOES NOT HAVE TO BE PERFORMED WHILE TILTED-** Applicants novel hitch design allows container hitching performed in the vertical as well as the tilted position
- f) **SHARP CORNERING UP TO 90 DEGREES-** Non tilted hitching can obtain 90 degrees only if the hitch on both lead and tow containers have been lengthened to create enough distance between containers so as to prevent container sides from abutting each other. This however causes awkwardness in terms of lengthening the train and protruding parts when unhitched. Tolbert's configuration will permit a maximum of 67 degrees of bending (see appendix), while applicant can bend 90 degrees.
- g) **TWO LARGE WHEELS ONLY BECOMES POSSIBLE-** Applicant's system eliminates wheels in excess of two wheels where the container train dollies cannot be assembled prior to securing containers on dollies. Two wheeled containers would not stand vertically by themselves. More than two wheel systems, such as Tolbert's use smaller wheels to reduce overall height to maintain stability.

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5. The many benefits stated in 3. Above clearly are evidence to the novelty of the applicants invention for the following reasons:

- a) LACK OF IMPLEMENTATION-those skilled in the art have not implemented applicant's tilted for rolling hitch, indicates that it is not obvious
- b) SOLUTION TO A LONG FELT AND UNSOLVED NEED- When the containers are not hitched, a tiltable container is preferred over non-tiltable in terms of cost and stability, but such containers could not be hitched to each other or into a train.

6. ASSUMED UNWORKABILITY OVERCOME- Up till now those skilled in the art thought or were skeptical that hitched containers could function as a train, be easily tilted and hitched and be rolled in the tilted position.

7. TOLBERT TEACHES AWAY FROM APPLICANT- Applicants invention is contrary to Tolbert and what the prior art teaches

8. APPLICANT UTILIZES NEW PRINCIPLE OF OPERATION- Applicant has blazed a new trail rather than followed one.

9. THE LIMITATION OF 'system that is tilted from free standing position for rolling' OVERCOMES TOLBERT 35 U.S.C. 103(a)

Claim 1. Includes the limitation by the phrase "that is tilted from the free standing position for rolling" and thus overcomes Tolbert and clearly limits the scope of the invention, and defines the patentability of invention over Tolbert

The applicant requests reconsideration and allowance of the claims of 1,3,4,8,9 with regards to Tolbert under 35 U.S.C. 103(a) according to reasons stated above.

#### **DETAILS OF AMENDMENTS**

DEFINITION OF TERMS to be inserted in after **OPERATION FIG 1-11** on page 9 of 13

Claim 2 is combined with claim 1

Claim 8 is now combined with claim 3 as the word "connecting" is replaced with "hitching" for reasons of clarity. The purpose of the word connecting was to broaden the claim to include say two tilted for rolling containers that had the hitching mechanism as part of the container such as a ball on one and a socket on the other container that would lock them in the tilted position for rolling without adding a new element of a hitch.

Claim 9 is now reads it is dependent on claim 3 instead of 8

Claim 4 replaces said "said wheeled container secured to said attached container" with "single rigid entity" as well as clarifies with "and / or"

Claim 4.5 is added to clearly claim the hitching together trains of rigid entities in combination with refuse containers

Claim 5.5 is added to further claim the specific refuse container

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Applicant has included, for viewing only, page 6 of 14 of the provisional patent 60/209,964 filing date 06/08/2000 which would support the amended fig 1 showing two attached containers on top of a wheeled container. Although the claim 2 has been combined with claim 1, the "at least one attachable container" of claim 1 and the matter as shown in the provisional patent should ascertain that no new matter is being added by the amended fig 1.

**CONCLUSION**

For all of the above reasons, applicant submit that the specification and claims are now in proper form, and that the claims all define patentably over the prior art. Therefore applicant submits that this application is now in condition for allowance and which action is respectfully solicited.

**CONDITIONAL REQUEST FOR CONSTRUCTIVE ASSISTANCE**

Applicant has amended the specification and claims of this application so that they are proper, definite, and define novel structure which is also unobvious. If, for any reason this application is not believed to be in full condition for allowance, applicant respectfully requests the constructive assistance and suggestions of the Examiner pursuant to M.P.E.P. 2173.02 and 707.07(j) in order that the undersigned can place this application in allowable condition as soon as possible and without the need for further proceedings.

**CONDITIONAL REQUEST FOR WRITTEN RESPONSE**

Applicant has a limited ability in understanding patent terminology due to this being the first application. Applicant's slowness in grasping the concepts makes phone conversations difficult without first reading the specific arguments by the examiner towards the specific arguments put forth in this response and the response to the first office action. Applicant requests that the examiner provides written specific arguments, if any objections still remain after this response.

Very respectfully,



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**OPERATION FIG 1-11****DEFINITION OF TERMS**

**rigid entity-** is the new, single, container that is formed by securing at least one (first) attachable container on top of a wheeled container as well as the new single container that is formed when a second attachable container secured on the first attachable container already secured to the wheeled container. This also pertains to a third attachable container on top of the second, fourth on top of the third, etc. The word **single** is an adjective to further clarify the description of the new entity formed from the multiplicity of containers as container that functions in terms of tilting and rolling as a single container, and commonly precedes the two words rigid entity.

**means for securing-** is the physical element that mechanically fastens between or across the interface of either a wheeled container and first attachable container, or first attachable container and second attachable container, or second attachable container and third attachable container, etc. The Ferbrache handles (4) are the preferred embodiment and several standard types of hardware or joint design are shown in the alternative embodiments in Figures 4-8.

**secure-** is the action of engaging the means of securing

**hitch -noun-** is the physical element that fastens two tilted for rolling, wheeled, containers together one or both may be either a larger one piece container such as a refuse container, or a rigid entity. These hitched containers have their own wheels which rest separately on the floor, thus forming the carts of a train. Fig 4 is the referred embodiment of a hitch for the Ferbrache handles. Other examples of a hitch may be a flexible strap.

**hitch- verb -** also hitching, hitched- this is the action of fastening two tilted for rolling, wheeled containers together one or both may be either a larger one piece container such as a refuse container, or a rigid entity.

**adjoining -adjective-** refers to the containers directly in contact with one another, such as the wheeled container and the first attachable container. The wheeled container and second attachable container do not touch each other and hence not considered adjoining.

"Adjoining" and "adjoin" do not refer to hitches or hitching, are not used as a verb, and are not part of the hitch or hitching operation.

**ergonomically comfortable tilting and rolling -** refers to the height of the rigid entity is sufficient to allow an adult to tilt and then roll the rigid entity with their back or spine in the straightened position.

**tilted for rolling -** means that the wheeled container or rigid entity is tilted so that the center of gravity is shifted vertically and held in position above the axis of the means for rolling in order to vertically balance the container in a coplanar direction perpendicular to the axis of rotation. This is typically in excess of a 10 degree angle (for symmetrical evenly loaded containers) between the vertical axis of the container in its free standing position.